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EXAMINER

WASHBURN, DANIEL C

ART UNIT PAPER NUMBER

2672

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,062

Applicant(s)

WOO, JUNG-OH

Examiner

Dan Washburn

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

Page 6 line 12 contains a typo; the line refers to memory 131 of Figure 1 when it should refer to memory 130 of Figure 1, as memory 131 does not exist.

Page 7 line 31 contains a typo; the line refers to guide chamber 20 of Figure 3 when it should refer to guide chamber 210 of Figure 3, as guide chamber 20 does not exist.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Kfoury et al. (US 2003/0044000).

As to claims 1, 7, and 8, Kfoury describes a method and a picture display device in a mobile terminal, comprising: a direction detecting section for detecting the direction in which the mobile terminal is placed and generating first, second, third, and fourth direction detecting signals; a display controller for outputting display data in an upright

direction when a first direction detecting signal is generated, in a direction turned 90° clockwise when a second direction detecting signal is generated, in a direction turned 180° clockwise when a third direction detecting signal is generated, or in a direction turned 270° clockwise when a fourth direction detecting signal is generated; and a display section for displaying the display data. Kfoury also describes generating a full size display of data when the display is turned 90° or 270° clockwise and generating a standard display of data when the display is not adjusted or is turned 180° clockwise. For example, Kfoury includes Figures 1-4, which illustrate four orientations of a picture display device in a mobile terminal with a display section for displaying data. Figure 1 describes the picture display device with an image and keypad in their typical positions. In this orientation the keypad is sending a signal, considered a first direction-detecting signal, to the display, which tells the display controller to output the display data in an upright position paragraph 0015. When the device changes orientation the keypad is rotated 90° clockwise a second direction-detecting signal is sent to the display and the display is rotated 90° clockwise, as offered in Figure 3 paragraph 0019. When the keypad has been rotated 180° clockwise a third direction-detecting signal is sent to the display and the display is rotated 180° clockwise, as offered in Figure 4 paragraph 0020. Finally, when the keypad has been rotated 90° counterclockwise, or 270° clockwise, a fourth direction-detecting signal is sent to the display and the display is rotated 270° clockwise, as offered in Figure 2 paragraph 0018. Kfoury discloses that in Figures 2 and 3 the text is displayed in a landscape type view rather than the portrait view of Figures 1 and 4, this is considered generating a full size display of data when

the display is rotated 90° or 270° clockwise, as opposed to the standard display of data when the display is not rotated at all or is rotated 180° clockwise paragraphs 0018 and 0019.

With regard to claims 3 and 4, Kfoury describes a picture display device wherein the direction detecting section is mounted in a folder housing and a main housing of the mobile terminal. For example, Kfoury includes Figure 6, which illustrates a grid of key sensors 636. The grid of key sensors provides a sensor signal to the device's processor that represents the orientation of the keypad, and thus controls the orientation of the display paragraph 0021. Figure 6 also includes top cover 601 and bottom cover 605. Covers 601 and 605 can be considered a folder housing, and the array of key sensors is indirectly mounted on this folder housing. The grid of key sensors is initially mounted onto printed circuit board 603, which is considered a sensor, or main, housing paragraph 0016, and this printed circuit board is mounted onto the folder housing created by covers 601 and 605.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kfoury et al. (US 2003/0044000) in view of Smith (US 2002/0033836) and further in view of Fuchimukai et al. (US 2001/0007469).

Concerning claim 2, Kfoury describes a picture display device with a direction-detecting device that generates first, second, third, and fourth direction detecting signals, as described in the rejection of claim 1. Kfoury also describes using a magnetic Reed switch that is activated by a magnet to detect the orientation of the device and send the appropriate direction-detecting signal to the display paragraph 0034.

Kfoury doesn't describe that the magnet is disposed within a guide chamber and that the magnet is able to move around to activate first, second, third, and fourth direction detecting Hall sensors.

However, Smith describes a mobile display device that adjusts the orientation of its display based on the orientation of the device. He further discloses that the orientation device can be of any type known to one skilled in the art, such as a combination moveable magnet and a Hall effect switch or a combination moveable magnet and a Reed switch, or equivalents thereof paragraph 0018. Smith's description of the moveable magnet inherently means that the magnet is contained within some sort of guide chamber that is large enough to allow the magnet to freely move about. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kfoury the combination moveable magnet and Hall effect switch as taught by Smith in order to create a cheaper and more reliable mechanism for detecting the orientation of the device and rotating the display accordingly.

Kfoury in view of Smith doesn't describe the guide chamber having first, second, third, and fourth extending portions corresponding respectively to the first, second, third, and fourth possible orientations of the display.

However, Fuchimukai discloses a digital camera having a guide chamber with a first, second, third, and fourth extending portion, which correspond respectively to the first, second, third, and fourth possible orientations of the display. For example, Fuchimukai describes a digital camera including a conductive ball contained within a guide chamber that is used to detect the orientation of the camera when a picture is taken. Figures 4-8 describe a guide chamber with four extending portions. When the conductive ball moves to any of the first, second, third, or fourth extending portions of the guide chamber it creates a short between any two of the four conductive plates 51-54. When a short is created between any two of the conductive plates a signal is generated that tells the processor of the camera its current orientation paragraphs 0044-0047. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the extending portions of the guide chamber as taught by Fuchimukai into the guide chamber and combination moveable magnet and Hall sensors arrangement as taught by Kfoury in view of Smith in order to keep the number of false orientation signals to a minimum by spreading out the Hall sensors and making the magnet move down a path corresponding to the correct orientation before it activates a Hall sensor that will potentially change the orientation of the display.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kfoury in view of Yuyama et al. (US 5,612,732).

With regard to claim 5, Kfoury describes a picture display device in a mobile terminal comprising: a direction detecting section for detecting the direction in which the mobile terminal is placed and generating first, second, third, and fourth direction

detecting signals; a display controller for outputting display data in an upright direction when a first direction detecting signal is generated, in a direction turned 90° clockwise when a second direction detecting signal is generated, in a direction turned 180° when a third direction detecting signal is generated, or in a direction turned 270° clockwise when a fourth direction detecting signal is generated; and a display section for displaying the display data, as described in the rejection of claim 1.

Kfoury doesn't describe that the picture display device in a mobile terminal also comprises a camera module for taking an image signal and an image processing section for processing the image signal taken by the camera module in a display picture size.

However, Yuyama describes a mobile device that contains a camera module for taking an image signal and an image processing section for processing the image signal taken by the camera module in a display picture size. For example, Yuyama illustrates a block diagram of the portable display device in Figure 3. Figure 3 offers camera section 6, which consists of a lens 25, a CCD 26, and an ADC 27. The CCD generates an electric signal based on the intensity of light focused on the lens, and the ADC converts the analog video signal from the CCD into a digital signal that is processed in the image compression section 9, which can also be considered the image processing section column 5 lines 37-45. This image can then be correctly displayed on the LCD section 5 column 5 lines 22-35. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kfoury the camera module as taught by

Yuyama in order to increase the functionality of Kfoury's electronic device and therefore make it more appealing and more useful to the average consumer.

Concerning claim 6, Kfoury describes a picture display device in a mobile terminal comprising: a direction detecting section for detecting the direction in which the mobile terminal is placed and generating first, second, third, and fourth direction detecting signals; a display controller for outputting display data in an upright direction when a first direction detecting signal is generated, in a direction turned 90° clockwise when a second direction detecting signal is generated, in a direction turned 180° when a third direction detecting signal is generated, or in a direction turned 270° clockwise when a fourth direction detecting signal is generated; and a display section for displaying the display data, as described in the rejection of claim 1.

Kfoury doesn't describe that the picture device in the mobile terminal also comprises a tuner for receiving a composite television video signal broadcast on a selected channel; a decoder for decoding the composite video signal to generate an analog video signal and a synchronizing signal; and a video processing section for converting the analog video signal into a digital video data, processing the digital video data in a frame size and outputting a frame video signal and user data in the frame.

However, Yuyama describes just such a mobile terminal. For example, Yuyama offers Figure 3, which is a block diagram of Yuyama's portable display device. Figure 3 is described as representing the portable television receiver shown in Figures 1 and 2. The portable television receiver 1 comprises a TV tuner section 4 and a liquid-crystal display section 5 column 4 lines 64-67 and column 5 line 1. The TV tuner section 4 is

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made up of a tuner 21 and an ADC 22. The tuner 21 selectively receives a particular TV wave and outputs the received signal to the display driver 23 of the LCD section 5. The display driver 23 can be considered a decoder as it converts the supplied video into an analog RGB signal and outputs this analog signal to the LCD in a format that fits the size of the LCD. A video processing section also exists as the tuner also outputs the signal to the image compression section 9. The image compression section, or image processing section, takes in and processes the signal from the ADC 22. Once the processing is complete the data is stored in video memory column 5 lines 12-35. . It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kfoury the TV tuner module as taught by Yuyama in order to increase the functionality of Kfoury's electronic device and therefore make it more appealing and more useful to the average consumer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wong et al. (US 6,888,532) describes an automatic orientation-based user interface for a handheld device. Hsu (US 6,819,362) includes a camera that is able to detect and store its orientation into memory when a picture is taken. Shibata et al. (US 2001/0004269) discloses a portable display terminal with a camera and rotatable display. Hanratty (US 6,104,307) describes an orientation alarm system that includes a sensor comprising a guide chamber and a moveable conductive ball. Kim (US 6,897,882) includes a pivoting digital video display capable of rotating an incoming television signal, and Bradski (US 6,798,429) includes a portable display device that

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uses the relative motion of the device to vary the orientation of the object displayed on the screen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Washburn whose telephone number is (571) 272-5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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10/7/05

 10/11/05
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